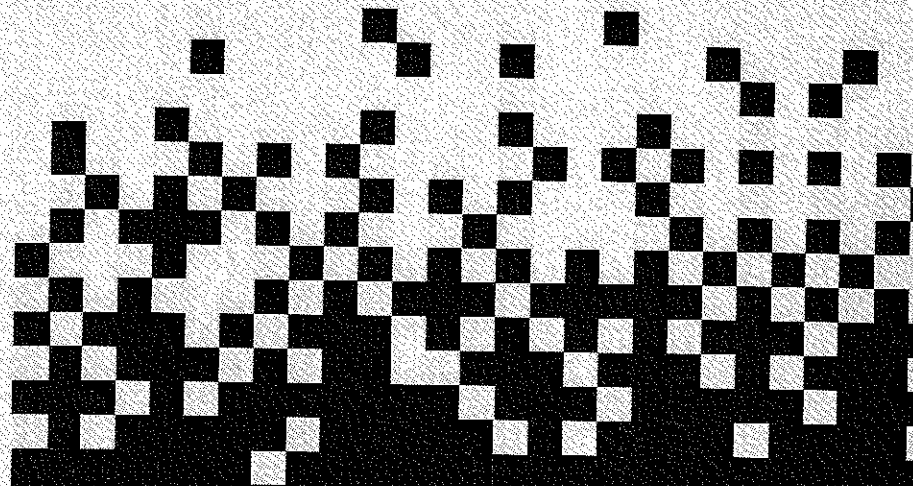


describing information, including the  
use in pregnancy, enclosed.  
G. PRACTICALITY



# PROFESSIONAL DEVELOPMENT — IN — EDUCATION

New Paradigms & Practices



THOMAS R. GUSKEY and  
MICHAEL HUBERMAN, Editors

FOREWORD BY MATTHEW B. MILES

## Teacher Learning in the Workplace

### Implications for School Reform

MARK A. SMYLIE

In, his recent book, *The Predictable Failure of Educational Reform*, Seymour Sarason (1990) confronts us with a simple yet extraordinarily provocative argument. He contends that we will fail, as we have failed so many times before, to improve schooling for children until we acknowledge the importance of schools not only as places for teachers to work but also as places for teachers to learn. He writes:

From their inception our public schools have never assigned importance to the intellectual, professional, and career needs of their personnel. However the aims of the schools were articulated, there was never any doubt that schools existed for children. . . . It is virtually impossible to create and sustain over time conditions for productive learning for students when they do not exist for teachers. (pp. 144-145)

Increasingly, attention is being called to those conditions of schools and teachers' work that obstruct instructional improvement and student learning (Buchmann & Schwille, 1983; Feiman-Nemser & Buchmann, 1985; Lieberman & Miller, 1991; Murphy, 1991; Shulman, 1989). Our concern about these conditions lies at the heart of recent efforts to restructure schools and redesign teachers' roles (Carnegie Forum on Education and the Economy, 1986; Darling-Hammond & Berry, 1988; Elmore, 1990; Holmes Group, 1990).

The case for workplace reform proceeds from several different starting points. One point is organizational theory and literature from business and industry that identify institutional and work-role structures that presume to enhance employee productivity (Conley, 1991; Hart, 1990; Little, 1990). Another is ethical arguments for democratization of the workplace and teacher professionalization (Clark & Meloy, 1990; Darling-Hammond, 1988). Yet

another starting point is the classroom. Here, workplace reform follows from visions and models of what is presumably required for effective teaching and student learning (Evertson & Murphy, 1992; Hannaway, 1992; Hawley, 1988; Newmann, 1991).

While these starting points have some merit, they ignore a critical issue. If schools are to improve, if instructional opportunities for students are to be markedly better, teachers must teach differently. In order to change practice in significant and worthwhile ways, teachers must not only learn new subject matter and new instructional techniques; they must alter their beliefs and conceptions of practice, their "theories of action" (Argyris & Schön, 1974; Elmore & Sykes, 1992; Richardson, 1990). In order to be successful, therefore, workplace reform should also proceed from our understanding of how teachers learn and change.

Discourse on workplace reform has been virtually uninformed by theories of adult learning and change. Surprisingly, this literature has been applied infrequently to issues of teacher preservice and inservice education. Its curiously sparse application has pointed to improvements in preservice and inservice teacher education programs (Burden, 1990; Carter, 1990; Lanier & Little, 1986; Oja, 1991; Sparks & Loucks-Horsley, 1990; Sprinthall & Theis-Sprinthall, 1983). However, few analyses have gone further to suggest how these theories may speak to issues of workplace reform (Levine, 1989; Shulman, 1989).

My purpose in this chapter is to introduce a view of teacher learning in the workplace that is absent in current discussion about teacher professional learning and development and school reform. I step away from the traditional literature on learning to teach and present several theories of adult learning and change in organizations. These theories suggest relationships between specific dimensions of school workplace environments and teacher learning. This discussion is juxtaposed to a related discussion of learning outcomes for teachers. From my review of these theories, I propose what I consider an optimal model of a school environment that may support teacher learning. I conclude with a brief discussion of the problems associated with implementing such a model in practice.

The literature on adult learning and change is voluminous. There are many different and not always compatible perspectives. My discussion is guided necessarily by several premises.

Different theories treat the concepts of "learning" and "environment" differently (Merriam & Caffarella, 1991; see also Schunk, 1991a; Tennant, 1988). Some view learning as a singular, broad-based concept. Others distinguish different types or levels of learning. Likewise, some theories consider learning environment a vague, single-dimensional concept. Other theories define it according to specific dimensions. A few theories consider *both* learn-

ing and environment as multidimensional concepts. It is with this latter group of theories that I am most concerned. If we wish to improve schools as places for teachers to learn, we need to be able to identify those workplace conditions that promote or constrain learning. Furthermore, we need to specify which teacher learning outcomes we wish to promote. We should not assume that all teacher learning is necessarily conducive to promoting student learning and development. I will return to this issue later.

This chapter does not purport to be a comprehensive review of adult learning theory; nor does it claim to be a critical analysis of that theory. In addition, this chapter does not engage several key issues that run throughout this literature. One of these issues is what makes an adult learning theory a theory of adult learning as opposed to a theory of general human learning (Merriam & Caffarella, 1991). Another is whether these theories apply similarly to men and women, to persons of different cultures and ethnicities, and to persons of different ages or at different points of their careers (Boucouvalas & Krupp, 1989; Cytrynbaum & Crites, 1989; Dalton, 1989). Acknowledging possibilities for such variation (and leaving them for others to explore), we begin.

### THE LEARNING PROCESS

Across different theories of adult learning, a relatively consistent view of the learning process emerges (Brookfield, 1991; Merriam & Caffarella, 1991). This view reflects Dewey's (1938) model of experiential learning. According to Dewey, learning begins with ambiguous situations that present a dilemma, problem, or felt difficulty for the individual. The individual locates and defines the dilemma and then analyzes alternative solutions. Analysis may involve observation and experimentation that lead to understanding and to a decision to act or not act on a particular solution.

Similarly, Argyris and Schön (1974, 1978) contend that learning in organizations takes place under conditions of surprise or nonroutine circumstances that require heightened attention, experimentation, and determination of the source of problems. Learning occurs as individuals confront and alter taken-for-granted assumptions to reframe problem situations. Jarvis (1987) also argues that the impetus for learning comes from conflict between personal "biography" and current experience. Conflict may arise from many sources, from daily living to formal, planned learning activities. When conflict is perceived, individuals will seek to reestablish balance by testing and possibly revising their biographies to accommodate new experiences (see also M. R. Louis, 1990; March & Simon, 1958).

Schein's (1969, 1988) model of individual change incorporates this view

of the learning process. If change—learning—is to occur, it must be preceded by altering an existing cognitive-psychological equilibrium that supports present behavior and attitudes. Schein calls this alteration “unfreezing.” Once equilibrium is challenged and upset, an individual will seek information to resolve the dilemma that is posed. Information may come from personal or impersonal sources in the individual’s environment, from a single person or a number of other persons, from a short or prolonged search. Assessment of new information may begin a process of “cognitive redefinition.” The individual integrates new information into the “ongoing personality.” Integration leads to establishment of a new equilibrium and “refreezing.” This process of cognitive redefinition does not usually occur spontaneously. It is influenced by a number of different factors, including the intensity of cognitive discrepancy, the social context, and opportunities for “safe” reconsideration and experimentation with new practice.

These theories reflect a constructivist view of learning (Chapman, 1988; Gold, 1987; Moll, 1990) and suggest several propositions about adult learning in the workplace (Brookfield, 1991; Brundage & Mackeracher, 1980; Darkenwald & Merriam, 1982; Knox, 1977; Smith, 1982). First, adults learn, or have the potential to learn, throughout their lives. Some debate exists about relationships of physiological and neurological aging to learning (Brookfield, 1991; Merriam & Caffarella, 1991) and about relationships between learning and phases or stages of adult cognitive, psychological, and career development (Boucouvalas & Krupp, 1989; Dalton, 1989). Nevertheless, it is generally acknowledged that learning continues throughout adulthood.

Second, adult learning may occur across settings and circumstances (Marsick & Watkins, 1990). For example, adults may learn from formal, collective learning activities planned by others. They may learn from informal, self-initiated, and self-directed activities. They may also learn incidentally and unintentionally from everyday experiences such as task accomplishment and interpersonal interaction (see also Nadler, 1982). Any experience, be it formal or informal, intentional or incidental, individual or collective, has the potential to educate.

Third, adults enter learning situations with accumulated knowledge, skills, and beliefs from past experiences (see Knowles, 1984). Prior knowledge and beliefs may affect current learning by serving as cognitive and normative schemata through which individuals perceive and interpret their situations, new information, and themselves as learners. These schemata may enhance or hinder learning (Moll, 1990).

Fourth, adult learning is problem-oriented and occurs when problems relate in meaningful ways to adults’ life situations. This proposition relates directly to the concept of dilemma, disequilibrium, and conflict. It is unlikely that learning will take place unless problems implicate routine practice or

taken-for-granted knowledge, beliefs, and assumptions. Problems may emanate from a number of different sources, including individuals' experiences, the social or organizational environments in which they work, or personal curiosity and self-initiated inquiry.

Finally, adults can play an active role in their own learning. They are not merely passive recipients of information. At minimum, the cognitive and normative schemata they carry into learning situations mediate perception and interpretation of those situations. Adults may also be proactive and self-directed in searching for new learning opportunities and resources to apply to those opportunities (Knowles, 1984).

### LEARNING OUTCOMES

Several adult learning theories distinguish among different learning outcomes. One of the most detailed taxonomies is presented by Jarvis (1987). It distinguishes nine outcomes:

1. Habitual reaction based on presuppositions
2. Nonconsideration of the situation as a learning opportunity
3. Rejection of new learning
4. Preconscious learning
5. Behavioral change
6. Memorization of new information
7. Contemplation
8. Reflective practice
9. Experimental or scientific inquiry

The first three are nonlearning outcomes. The second three represent non-reflective learning. The last three represent higher-order reflective learning.

Others identify similar types of adult learning outcomes. Merriam and Caffarella (1991), for example, contrast task-specific, instrumental learning outcomes (e.g., Guthrie, 1952; Skinner, 1974; Thorndike, Bregman, Tilton, & Woodyard, 1928) with conceptual, reflective, self-empowering outcomes (e.g., Knowles, 1984; Maslow, 1954; Rogers, 1961). Argyris and Schön (1974, 1978) distinguish proactive, creative, critical, reflective learning from passive, reactive, unreflective learning (see also M. R. Louis, 1990; Marsick & Watkins, 1990; Schön, 1983). Kohn and Schooler (1982, 1983) suggest that learning can result in conformity or intellectual autonomy and flexibility. Finally, Van Maanen and Schein (1979) argue that learning can lead to conformity and perpetuation of work roles or to innovation in the content and conduct of those roles.

Acknowledging that not all outcomes of learning are alike, we confront an important question. If we seek to redesign schools to promote teacher learning, it seems that we should first examine what teacher learning we wish to promote.

In the mid-1980s, a conception of teaching emerged that portrays teaching as a complex, dynamic, interactive, intellectual activity (Carter, 1990; Leinhardt & Greeno, 1986). This view emphasizes comprehension, reasoning, and conceptual transformation (Richardson, 1990; Shulman, 1987). It stresses autonomy and self-directedness in learning and analytical, reflective thought and practice (Schön, 1983; Zeichner & Liston, 1987). It suggests that teacher learning aims to increase personal agency, innovation and creativity, critical analysis and reflection, and teaching "against the grain" (Cochran-Smith, 1991).

These outcomes are promoted not only on the basis of their consistency with this new conceptions of teachers' work. Their value is linked to demands for increased educational productivity (Smylie & Conyers, 1991). These learning outcomes are considered crucial if teachers are to deal with rapid changes in the characteristics, conditions, and learning needs of students and the explosion of subject-matter knowledge and knowledge about teaching and learning (Devaney & Sykes, 1988; Shulman, 1987).

If the teacher learning we wish to promote involves conceptual change, reflective thinking, experimentation, and innovation, how might we best redesign schools to promote these outcomes? I now turn back to theories of adult learning and change to identify relationships between specific aspects of learning environments, particularly workplace environments, and these learning outcomes.

### LEARNING ENVIRONMENTS AND OUTCOMES

Most theories of adult learning describe a relationship between learners and their environments (Brookfield, 1991; Merriam & Caffarella, 1991; see also Bolger, Caspi, Downey, & Moorehouse, 1988; Bronfenbrenner, 1979; Lewin, 1935; Schunk, 1991a). Those most germane to this discussion are (1) social learning theory, (2) incidental learning theory, and (3) organizational socialization theory. These related theories address the range of learning outcomes identified above. They also point to specific aspects of workplace environments associated with those outcomes. These theories adopt an interactionist perspective of the relationship between learners and their environments (e.g., Bell & Staw, 1989; M. R. Louis, 1990; Marsick & Watkins, 1990). While mutual influence is an important dimension of these theories, I have chosen to focus primarily on the presumed effects of environments on individual learning.

### Social Learning Theory

Social learning theory suggests that much human learning is grounded in social context. In his review, Schunk (1991b) contends that individuals develop knowledge, skills, strategies, beliefs, and attitudes by observing and interacting with others. Individuals also learn the functional value and appropriateness of beliefs, attitudes, and behaviors by assessing the consequences of others' actions as well as the consequences of their own actions. Individuals act, in turn, according to their learned beliefs about expected outcomes and value of actions.

Among the most comprehensive social learning theories is that of Bandura (1977, 1986). His theory is based on several assumptions (see Schunk, 1991b). One assumption is that human learning and functioning are explained in terms of triadic reciprocity. Individual behavior, cognitive and other personal factors, and environmental conditions operate as interacting determinants of one another. A second assumption is that learning can occur either enactively or vicariously. Enactive learning involves learning from doing and the consequences of one's actions. These consequences may act as sources of information and motivation for individuals to assess the likely outcomes of behavior and their own ability to achieve them. Vicarious learning involves observing or listening to others, who serve as models and referents. As with enactive learning, models' actions and consequences inform and motivate individuals' thinking and behavior.

According to Bandura's theory, two constructs mediate learning and behavior. Those constructs are outcome expectations and perceived self-efficacy. Outcome expectations refer to beliefs about relationships between actions and outcomes. Self-efficacy is belief in one's own capacity to organize and implement actions necessary to achieve desired outcomes. Both outcome expectations and self-efficacy beliefs are learned through social interaction and personal experience.

Outcome expectations and perceived self-efficacy function in several ways to influence subsequent learning and performance. According to Bandura (1986), individuals tend to select courses of action (including learning activities) for which they hold positive outcome expectations. They tend to select and sustain courses of action that they believe will result in particular valued outcomes. Perceived self-efficacy functions somewhat differently (see also Schunk, 1984; 1991a). Efficacy can influence an individual's choice of activities as well as task engagement and avoidance. For example, individuals with higher self-efficacy are more likely to select complex and challenging tasks than individuals with lower self-efficacy. They are more likely to take risks, experiment, and be more creative in their learning, thinking, and work. In addition, self-efficacy can influence the amount of effort an individual expends

and persistence in task completion. When facing difficulties, persons who feel efficacious are likely to expend greater effort and persist longer than those who do not. Efficacy is considered a domain-specific construct (see Schunk, 1991b; Wylie, 1979). That is, individuals may consider themselves more efficacious in some tasks and subjects than in others.

Bandura (1986) argues that certain conditions in the individual's environment may influence the development of outcome expectations and self-efficacy. Outcome expectations are most readily developed when individuals have opportunities to observe the performances, successes, and failures of others who may serve as performance models. Models may occupy formally designated roles (e.g., mentors); they may be co-workers who serve as informal models. Expectations for what works (and what does not) develop through perceived patterns of others' actions and outcomes. They also develop from one's own experiences. Such enactive learning is enhanced if mechanisms exist for providing individuals specific feedback about performances and consequences.

Like outcome expectations, perceived self-efficacy is developed through both vicarious and enactive learning. Observation of successful models tends to enhance self-efficacy. Self-efficacy is further enhanced if models are similar in status to the individual and are observed coping successfully with similar problems (Schunk, 1991b). Higher-status mastery models are less effective. Development of self-efficacy through enactive learning is promoted through specific feedback related to individual performance and consequences, especially if consequences are successful. Making sense of the relationship between self and the consequences of one's actions is further enhanced by the presence of institutional goals. Individuals are more likely to develop a positive sense of self-efficacy in settings where there are challenging but attainable goals with specific standards against which to measure effort, performance, and accomplishments. The influence of goals is enhanced if they contain proximal as well as distal dimensions, so that individuals may obtain immediate rather than delayed reinforcement of efficacious performance. Similarly, self-efficacy is enhanced if goals are challenging but attainable and if others in the setting provide encouragement that the individual can achieve them.

Several other theories identify related aspects of environments that influence learning. For example, Jarvis (1987) contends that environments characterized by formal, bureaucratic, hierarchical power and authority relationships are more likely to lead to learned conformity in thought and practice. In contrast, settings characterized by egalitarian power and authority relationships increase the likelihood that individuals will feel and be freer to engage in reflective practice and experimental learning. Schein (1969) also suggests that egalitarian or shared power and authority relationships are likely to be associated with innovative thinking and conceptual learning and change. In

addition, he suggests that autonomy and choice in work and the presence of multiple performance models encourage these outcomes.

### **Incidental Learning Theory**

Incidental learning is defined as a by-product of some other activity, such as task engagement and accomplishment or interpersonal interaction (Cell, 1984; Marsick & Watkins, 1990; Nadler, 1982). It takes place in everyday experience and occurs without intention, from "doing" and from both successes and mistakes. People may not be conscious of it. Incidental learning differs from formal and informal learning in that it is unplanned and unintentional. Formal learning is typically institutionally sponsored, classroom-based, and highly structured. Informal learning is initiated and often directed by the individual. It may be classroom- or nonclassroom-based, highly or loosely structured; but it is nonetheless intentional.

Incidental learning theories, like other learning theories reviewed here, suggest that learning takes place under conditions of surprise and nonroutine circumstances. Marsick and Watkins (1990) argue that learning from these situations may be mediated two ways (see also March & Simon, 1958). The first is by the characteristics of the situation itself. These characteristics include the nature of the work or specific activity generating the problem, the broader situational context of the problem, and time for task completion and learning. The second is the individual's cognitive capacity to give meaning to the problem; to gather, interpret, and analyze information to apply to the problem; and to develop and select among alternative, potentially effective solutions.

These theories contend that learning is enhanced by the development of specific capacities. Marsick and Watkins (1990), for example, identify three such learning capacities: (1) proactivity, (2) critical reflection, and (3) creativity. Proactivity refers to the learner's cognitive and motivational readiness to confront, interpret, and "solve" problematic situations. Critical reflection refers to the learner's skill in and disposition for examining one's underlying premises, assumptions, and schemata for learning and acting. Finally, creativity refers to thinking beyond the views one generally holds, generating new perspectives, and developing new courses of action. These capacities for learning are considered learning outcomes themselves.

Likewise, Argyris and Schön (1974) identify the capacity for critical reflection as an essential condition for productive learning. Their definition of critical reflection resembles that of Marsick and Watkins (1990)—digging below taken-for-granted assumptions so that the learner can reframe the learning situation. According to Argyris and Schön, critical reflection is essential for the learner to determine more accurately the nature of the problem pre-

presented in the learning situation, develop a broader range of possible alternatives, and interpret results of experimentation before deciding upon a solution.

Marsick and Watkins (1990) identify several aspects of workplace environments that relate to proactivity, critical reflection, and creativity. They suggest that proactivity and critical reflection are enhanced by participation in organizational decision making, shared authority and power, and opportunities for collective examination of individual and institutional expectations and beliefs. They suggest further that creativity is enhanced by open communication and group intellectual "play" (e.g., brainstorming, metaphor development). Communication and play are enhanced when participants hold equivalent status positions in the workplace. In this way, ideas are more likely to be considered on their merit rather than on the basis of their originator's status or position.

Argyris and Schön (1974) suggest that similar aspects of workplace environments are conducive to developing critical reflection. They contend that environments characterized by unilateral control, secrecy, and win-lose thinking stifle reflection. Environments with shared authority and power, open communication, and collaborative working relationships stimulate it.

### Organizational Socialization Theory

Organizational socialization is the process by which an individual is taught and learns "the ropes" of a particular organization and his or her role in that organization. It is the process by which an individual acquires the social knowledge and skills necessary to assume and perform the role well (Van Maanen & Schein, 1979). This knowledge concerns behavior that is appropriate to work roles and the position of the individual vis-à-vis other individuals and groups (Hart, 1991; Katz & Kahn, 1978; Monane, 1967). It also concerns values, norms, rules, operating procedures, rewards, and sanctions that govern work-role performance and social interaction (Boyan, 1988; M. R. Louis, 1990; Miklos, 1988).

Organizational socialization differs from occupational or professional socialization in that it is related to a specific setting. Organizational socialization may have early and anticipatory elements (Katz & Kahn, 1978). Nevertheless, the greatest influence of socialization seems to occur once the individual enters the organization (Bucher & Stelling, 1977; Guy, 1985; Hart, 1991). Socialization may occur through formal, planned educational programs, through sponsorship (e.g., mentors and other institutionally designated models), and through self-guided, informal experiential, or incidental learning (Van Maanen & Schein, 1979; see also Marsick & Watkins, 1990). The influence of socialization may be greatest and most focused during the initial

period of organizational membership. However, socialization continues throughout an individual's membership in the organization as he or she continuously negotiates work roles and social relationships (Hart, 1991; Miklos, 1988). The ongoing nature of organizational socialization makes this perspective meaningful for both beginning and experienced teachers.

A primary mechanism of organizational socialization is everyday experience. Individuals develop an understanding of organizational reality through work-role performance and interaction with co-workers (M. R. Louis, 1990). Like incidental learning, learning from socialization is thought to proceed from perceptions of discrepancy, to search and analysis of new information, to reconceptualization and development of new understanding and meaning. Learning is socially constructed (Bell & Staw, 1989; Berger & Luckmann, 1966; Festinger, 1954; Katz & Kahn, 1978; M. R. Louis, 1990). Peers, supervisors, and other superiors are important socialization agents (Mortimer & Simmons, 1978; see Hart, 1991). Peers control affiliation and sociability. Superiors control evaluation criteria and distribution of rewards. They may also control the nature and demands of an individual's work, which in turn defines specific tasks and task-related experiences, another source of learning.

Several theories of organizational socialization identify aspects of workplaces that are associated with learning. For example, Kohn and Schooler (1982, 1983) contend that certain features of work give rise to learned autonomy or conformity. The greater choice in work and freedom from close supervision an individual has on the job, the more reflective, self-directed, and intellectually flexible the individual will become. Reflection, intellectual flexibility, and self-direction are also enhanced by an individual's experiences with complex, nonroutine, and challenging tasks. On the other hand, the more routine and constraining the work, the more likely individuals are to learn conformity.

Van Maanen and Schein (1979) identify six variable dimensions of organizational socialization processes or experiences. First, persons may have collective learning experiences in groups of like others (e.g., inductees), or they may have individualistic experiences. Second, socialization experiences may be formal, planned, and segregated from everyday work, or they may be informal and integrated with work. Third, socialization experiences may be sequential or random; that is, the organization may denote a specific order of discrete learning experiences, or there may be no known or intended order of those experiences. Fourth, socialization experiences may be fixed in terms of preset time frame for learning to occur. On the other hand, those experiences may be open in that there is no specific time frame in which socialization outcomes can occur. Fifth, socialization may be serial or disjunctive. It may seek to groom individuals, particularly newcomers, to take the place of predecessors in established roles. It may help individuals to perform new work

roles where there are no predecessors or models. Finally, socialization may seek individual investiture, to validate personal characteristics persons bring to the organization. Or these experiences may seek divestiture, to deny or strip away certain personal characteristics.

Van Maanen and Schein (1979) relate each of these dimensions to three different learning outcomes: (1) custodial responses, which include conformity to and perpetuation of present work roles; (2) innovation in the content and conduct of present work roles; and (3) change of work roles themselves (see also Jones, 1986). They argue that custodial learning—conformity and perpetuation—is likely to occur when individuals are exposed only to others like themselves. Custodial learning is also likely to occur when learning experiences follow a predetermined sequence of activity, have no specific time frame for completion, groom individuals to assume existing roles, and ask learners to deny certain personal characteristics. Innovation in role content and performance is likely to occur when learning experiences involve a variety of similar and dissimilar others, are separate from everyday work, have fixed time frames but no prescribed order, and relate to new roles or roles with no predecessors or models. Finally, role innovation is likely to occur when learning experiences are individualistic or when individuals learn with a variety of other people. Role innovation is also likely to occur when learning experiences are integrated with daily work, have no prescribed order, relate to new roles, and reaffirm the personal value of the individual in the organization.

### Summary of Relationships

This review identifies several specific conditions that may promote learning in the workplace. One of the most salient conditions is opportunities for individuals to work with and learn from others on an ongoing basis. Learning may be enhanced through exposure to a variety of other individuals, particularly those with different knowledge and experiences. Collective learning experiences may provide individuals a greater variety of sources of information and ideas. They may also provide a greater variety of referents for assessing one's own ideas, performance, and needs for learning.

A second condition concerns the nature of collective learning opportunities. These theories emphasize the importance of collaboration in group work and learning. They stress the importance of open communication and examination of taken-for-granted beliefs and assumptions in work and learning. It is thought that open communication and examination of taken-for-granted beliefs and assumptions encourage the free exchange of ideas, which, in turn, promotes critical reflection, creativity and innovation, and self-directed, proactive thinking and learning.

A third related condition concerns the distribution of power and authority

in the workplace. Virtually every theory reviewed here stresses the importance of opportunities to work with and learn from others of similar position or status. This condition is related to the presence of shared power and authority and participative decision making in the workplace. Egalitarianism presumably allows more freedom and flexibility for critical thinking and analysis. Ideas and information are more likely, then, to be considered according to their merit rather than according to their sources. This egalitarian view must be qualified with consideration of expertise. Acknowledged expertise and position or formal status are not necessarily equivalent. Individuals may find valuable opportunities to learn from experts, regardless of position or status. They may discount opportunities to learn from more experienced colleagues or those of superior position or status if those individuals do not possess acknowledged and valued expertise.

A final condition of the workplace concerns the nature of individuals' work. Varying aspects of work and creating autonomy and choice in work roles and tasks appear to promote learning. These conditions may increase prospects for dilemmas to arise during the course of daily work. They may also increase the opportunities individuals have for critical reflection, experimentation, and innovation. The presence of challenging but attainable goals and feedback mechanisms may promote self-efficacy and enhance subsequent learning and performance.

### IMPLICATIONS FOR REDESIGNING SCHOOLS

These theoretical relationships suggest to me several implications for redesigning schools to promote teacher learning outcomes such as conceptual change, proactivity, critical reflection, experimentation, and innovation. These implications are outlined below as conditions of an optimal school learning environment. Several of the conditions I present are familiar. As I note in the conclusion to this chapter, similar arguments have been made from research on learning to teach and on the workplace conditions of schools. However, what is significant about this chapter is the strength it lends these arguments from the confluence of theories of adult learning and change in organizations with this previous research.

1. *Teacher collaboration.* An optimal school learning environment would provide teachers opportunities to work and learn together. It would provide ongoing, group-oriented activities with shared goals, responsibilities, and flexible agendas. It would promote sharing experiences and open exchange of opinions and ideas. This environment would encourage teachers to jointly identify and solve problems and develop new programs and practices. It would promote examination and critical analysis of current ideas, practices, and taken-

for-granted beliefs and assumptions. Collaboration would not only be encouraged in this environment; it would be publicly rewarded. In addition, opportunities for collaboration would not be confined to traditionally defined groups of teachers within a school (e.g., grade-level teams, subject-area departments, beginning teachers). These opportunities would be designed to cut across such groups when appropriate in order to provide teachers access to others with whom they might not have regular contact or working relationships.

2. *Shared power and authority.* An optimal environment for teacher learning would provide opportunities for teachers and administrators to share power and authority. One way these opportunities would be provided would be through shared leadership and participative decision making. Teachers' participation with administrators in decision making would be authentic, not symbolic. It would be available across decision domains (e.g., curriculum and instruction, staff development, personnel, general administration), even though teachers might not desire to share in decisions in all areas. Shared power and authority would define not only relationships between teachers and administrators but relationships among teachers themselves.

3. *Egalitarianism among teachers.* Egalitarianism in the workplace relates to issues of status as well as of power and authority. Taking a distributive approach to sharing power and authority may reduce positional status distinctions among teachers that may restrict development, exchange, and critical analysis of ideas and practices. However, status extends beyond power and authority to experience and recognized expertise. In an optimal school environment, status distinctions among teachers would be reduced by reciprocity in working and learning relationships. Individual talents and expertise would be identified and organized so everyone with expertise, regardless of position or status, at some time or another serves as a model for others. Hierarchical forms of teacher work redesign (e.g., career ladder, master teacher, and mentor teacher programs) would not serve as the basis of collaboration. These forms of work redesign may expand learning opportunities for some teachers but at the same time may create status distinctions that discourage collaboration and constrain open communication, critical thinking, and innovation among others (see Little, 1990).

4. *Variation, challenge, autonomy, and choice in teachers' work.* There are very few jobs more variant and challenging than classroom teaching. The demands and complexities of teachers' work have been well documented (Doyle, 1986; Lieberman & Miller, 1984; Lortie, 1975; Shulman, 1989). At the same time, routine and repetition exist in the organization of that work (Jackson, 1968; Lieberman & Miller, 1984). An optimal environment would provide variation and challenge in teachers' work through the types of collaborative working and learning relationships and opportunities for participation in decision making described above. Such an environment would cre-

ate additional opportunities for teachers to work outside the classroom. These opportunities might include developing school- and district-level programs and policies, working with parents and community agencies, developing and leading formal staff development activities, and conducting research. Each of these activities would relate in some way to the classroom.

One of the most enduring features of teachers' work is classroom autonomy (Feiman-Nemser & Floden, 1986). On one hand, autonomy may be considered a problematic by-product of the physical and social isolation of teachers and the absence of systematic evaluation and control mechanisms. On the other hand, autonomy may be viewed as an essential condition that permits teachers to meet the constantly changing needs of students through adaptation, experimentation, and innovation in classroom practice (see Lipsky, 1980). The autonomy that would be encouraged in an optimal learning environment would be guided by the joint responsibility and accountability teachers accept when they work collaboratively and share power and authority with others in the workplace.

5. *Organizational goals and feedback mechanisms* Schools that are optimal learning environments would exhibit clear goals to give work, learning, and innovation direction and meaning. These goals would direct collective and individual activity and serve as referents for performance, outcomes, and learning needs. As suggested earlier, these school goals would be developed jointly. They would be subject to ongoing critical reflection and analysis in collaborative working and learning relationships. Feedback mechanisms would be more informal than formal and more formative and summative. Examination and assessment of practice would be an integral aspect of the collaborative working and learning relationships suggested above. They would also be a key aspect of participative decision making.

6. *Integration of work and learning* Integration of teachers' learning and work is implicit in each of the conditions presented here. In an optimal workplace environment, learning experiences would arise from and feed back into work experiences. Indeed, learning would be considered part of teachers' work, not an ancillary activity bearing little relation to daily work with students and colleagues.

7. *Accessibility of external sources of learning* This last condition relates to the concern that groups, like individuals, need access to multiple sources of information for learning and external referents to best assess their performance and accomplishments. The theories reviewed in this chapter suggest strongly that creativity and innovation may be constrained if individuals must rely primarily on enactive learning. Creativity and innovation may also be constrained if individuals have access only to others who share similar information, ideas, and experiences. As individual learning is likely to be enhanced by increased access to information and ideas from a group of colleagues within

a school, so, too, is group learning likely to be enhanced by increased access to information and ideas from resources outside the group. These resources include but are not limited to teachers and administrators from other schools and districts, professional workshops and conferences, university faculty and external consultants, and individuals and agencies in the school's community

## CONCLUSION

This review of adult learning theories reaches conclusions similar those from the learning-to-teach literature (Carter, 1990; Clift, Holland, & Veal, 1990; Richardson, 1990). Grossman (1992), for example, argues that teachers must be able to situate new knowledge and understanding within the specific contexts of their classrooms (see also Feiman-Nemser, 1983). They must also be able to see connections between their learning and their everyday work. Finally, they must be able to resolve tensions between abstract principles and the complexity of classroom practice (Cohen, 1990; Lampert, 1984). Grossman contends further that collegiality is a crucial element in learning to teach. To learn, teachers need feedback on what they are actually doing as they teach. They need to understand fully the rationales and consequences of their actions. Like Shulman (1989), Little (1990), and Feiman-Nemser (1983), she argues that learning with other teachers provides an important source of new ideas and feedback about practice

The theories on adult learning also cross-validate what teachers tell us about their schools as places for work and learning (e.g., Clift et al., 1990; Smylie, 1989). They also validate empirical evidence of relationships between organizational contexts of schools and teacher learning and change (e.g., Fullan, 1991; Little, 1982, 1984; Rosenholtz, 1989; Smylie, 1988; see also K. S. Louis & Smith, 1990).

While confluence of theory, teachers' perceptions and opinions, and empirical evidence strengthens the case for developing these particular conditions of school environments, we must proceed cautiously. To simply identify workplace conditions conducive to teacher learning is not the same thing as understanding in greater depth the complex, potentially interactive functional relationships of those conditions to learning. It does not shed light on the interactions between the work environment and individual cognitive and psychological states in the learning process. Nor does identification help us understand or accomplish the complex and difficult task of redesigning schools to establish these workplace conditions. Efforts to establish these workplace conditions are likely to implicate prevailing patterns of belief, practice, and working relationships within a school. Both teachers and administrators may have to learn new skills, adopt new attitudes, and develop new working rela-

tionships. Thus the process of establishing conditions to promote learning is itself a process of learning.

Organizational theory reminds us of the persistence of organizational forms and processes. Inquiry into the complexities of persistence is at the heart of a growing body of literature now labeled "the new institutionalism" (e.g., March & Olsen, 1984; Powell & DiMaggio, 1991; Searing, 1991). This literature focuses on how the "order" of an organization is maintained through its symbolic systems, routines, habits or conventions, rules, environmental interactions, rewards, incentives, and sanctions. It suggests to us that systemic and persistent long-term efforts may be required to break and reform existing institutional orders in schools. It will not be easy. In the meantime, the theories presented here, in conjunction with teachers' opinions and available empirical evidence, show a direction in which we might work to redesign schools for teacher learning and classroom change.

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